



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

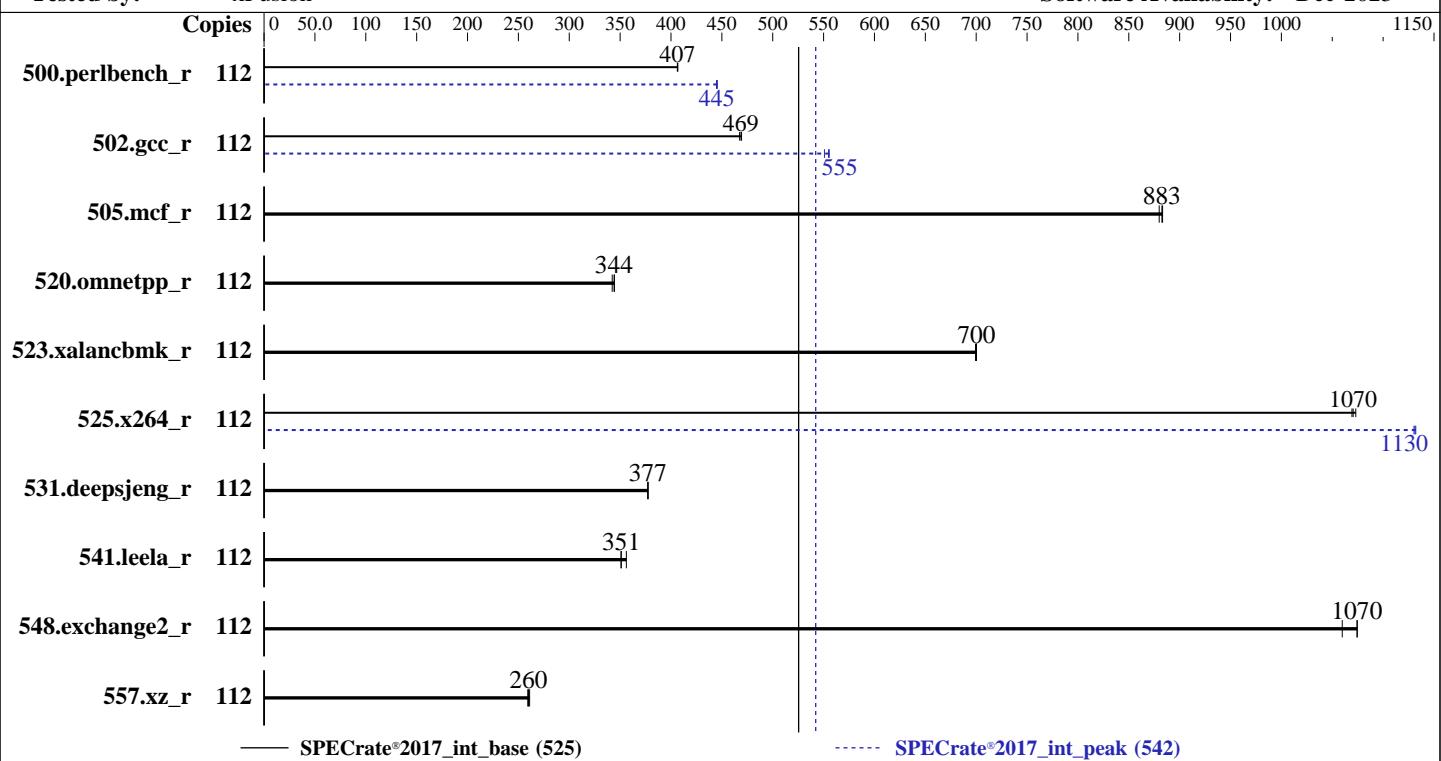
Test Sponsor: xFusion

Tested by: xFusion

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023



— SPECrate®2017\_int\_base (525)

----- SPECrate®2017\_int\_peak (542)

### Hardware

CPU Name: Intel Xeon Gold 5520+  
 Max MHz: 4000  
 Nominal: 2200  
 Enabled: 56 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 2 MB I+D on chip per core  
 L3: 52.5 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-5600B-R,  
 running at 4800)  
 Storage: 1 x 960 GB SATA SSD  
 Other: CPU Cooling: Air

### Software

OS: Red Hat Enterprise Linux 9.2 (Plow)  
 Compiler: 5.14.0-284.11.1.el9\_2.x86\_64  
 C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;  
 Parallel: No  
 Firmware: Version 01.01.03.05 Released Apr-2024  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**xFusion**

**SPECrate®2017\_int\_base = 525**

**SPECrate®2017\_int\_peak = 542**

CPU2017 License: 6488

Test Date: May-2024

Test Sponsor: xFusion

Hardware Availability: Dec-2023

Tested by: xFusion

Software Availability: Dec-2023

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	112	439	406	<b>439</b>	<b>407</b>	438	407	112	400	446	401	445	<b>401</b>	<b>445</b>		
502.gcc_r	112	338	469	339	467	<b>338</b>	<b>469</b>	112	285	556	288	551	<b>286</b>	<b>555</b>		
505.mcf_r	112	205	883	<b>205</b>	<b>883</b>	206	880	112	205	883	<b>205</b>	<b>883</b>	206	880		
520.omnetpp_r	112	<b>427</b>	<b>344</b>	427	344	429	342	112	<b>427</b>	<b>344</b>	427	344	429	342		
523.xalancbmk_r	112	169	700	169	699	<b>169</b>	<b>700</b>	112	169	700	169	699	<b>169</b>	<b>700</b>		
525.x264_r	112	183	1070	<b>183</b>	<b>1070</b>	183	1070	112	174	1130	173	1130	<b>173</b>	<b>1130</b>		
531.deepsjeng_r	112	340	377	340	377	<b>340</b>	<b>377</b>	112	340	377	340	377	<b>340</b>	<b>377</b>		
541.leela_r	112	521	356	<b>528</b>	<b>351</b>	529	351	112	521	356	<b>528</b>	<b>351</b>	529	351		
548.exchange2_r	112	273	1070	<b>273</b>	<b>1070</b>	277	1060	112	273	1070	<b>273</b>	<b>1070</b>	277	1060		
557.xz_r	112	463	261	<b>465</b>	<b>260</b>	467	259	112	463	261	<b>465</b>	<b>260</b>	467	259		

**SPECrate®2017\_int\_base = 525**

**SPECrate®2017\_int\_peak = 542**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"  
Kernel Boot Parameter set with : nohz\_full=1-111

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/2023/lib/intel64:/home/2023/lib/ia32:/home/2023/jet5.0.1-32"  
MALLOC\_CONF = "retain:true"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Red Hat Enterprise Linux 8.4

Transparent Huge Pages enabled by default

Prior to runcpu invocation

Filesystem page cache synced and cleared with:

sync; echo 3> /proc/sys/vm/drop\_caches

runcpu command invoked through numactl i.e.:

numactl --interleave=all runcpu <etc>

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

CPU2017 License: 6488

Test Date: May-2024

Test Sponsor: xFusion

Hardware Availability: Dec-2023

Tested by: xFusion

Software Availability: Dec-2023

## General Notes (Continued)

is mitigated in the system as tested and documented.

jemalloc, a general purpose malloc implementation

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

## Platform Notes

BIOS configuration:

Performance Profile Set to Performance

SNC Set to Enable SNC2 (2-clusters)

LLC Prefetch Set to Disabled

LLC dead line alloc Set to Disabled

Stale AtoS Set to Disabled

Sysinfo program /home/2023/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Fri May 31 04:11:33 2024

SUT (System Under Test) info as seen by some common utilities.

-----  
Table of contents

1. uname -a
  2. w
  3. Username
  4. ulimit -a
  5. sysinfo process ancestry
  6. /proc/cpuinfo
  7. lscpu
  8. numactl --hardware
  9. /proc/meminfo
  10. who -r
  11. Systemd service manager version: systemd 252 (252-13.el9\_2)
  12. Failed units, from systemctl list-units --state=failed
  13. Services, from systemctl list-unit-files
  14. Linux kernel boot-time arguments, from /proc/cmdline
  15. cpupower frequency-info
  16. tuned-adm active
  17. sysctl
  18. /sys/kernel/mm/transparent\_hugepage
  19. /sys/kernel/mm/transparent\_hugepage/khugepaged
  20. OS release
  21. Disk information
  22. /sys/devices/virtual/dmi/id
  23. dmidecode
  24. BIOS
- 

1. uname -a  
Linux localhost.localdomain 5.14.0-284.11.1.el9\_2.x86\_64 #1 SMP PREEMPT\_DYNAMIC Wed Apr 12 10:45:03 EDT  
2023 x86\_64 x86\_64 x86\_64 GNU/Linux

2. w  
04:11:33 up 1:29, 2 users, load average: 0.01, 16.21, 58.08  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 02:43 1:27m 0.04s 0.04s -bash

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Platform Notes (Continued)

```
root      pts/0      02:53      6.00s  1.18s  0.18s -bash

-----
3. Username
From environment variable $USER: root

-----
4. ulimit -a
real-time non-blocking time  (microseconds, -R) unlimited
core file size              (blocks, -c) 0
data seg size                (kbytes, -d) unlimited
scheduling priority          (-e) 0
file size                    (blocks, -f) unlimited
pending signals               (-i) 2060185
max locked memory            (kbytes, -l) 8192
max memory size              (kbytes, -m) unlimited
open files                   (-n) 1024
pipe size                    (512 bytes, -p) 8
POSIX message queues         (bytes, -q) 819200
real-time priority           (-r) 0
stack size                   (kbytes, -s) unlimited
cpu time                     (seconds, -t) unlimited
max user processes            (-u) 2060185
virtual memory                (kbytes, -v) unlimited
file locks                   (-x) unlimited

-----
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 31
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root [priv]
sshd: root@pts/0
-bash
sh 1.sh
sh run_rate_ic2023.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=112 -c
  ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=56 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=112 --configfile
  ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=56 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
  --runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
  $SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/2023

-----
6. /proc/cpuinfo
model name      : INTEL(R) XEON(R) GOLD 5520+
vendor_id       : GenuineIntel
cpu family     : 6
model          : 207
stepping        : 2
microcode       : 0x21000200
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrp_brs
cpu cores       : 28
siblings        : 56
2 physical ids (chips)
112 processors (hardware threads)
physical id 0: core id 0-27
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Platform Notes (Continued)

```
physical id 1: core ids 0-27
physical id 0: apicids 0-55
physical id 1: apicids 128-183
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

-----  
7. lscpu

From lscpu from util-linux 2.37.4:

```
Architecture:           x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         46 bits physical, 57 bits virtual
Byte Order:            Little Endian
CPU(s):                112
On-line CPU(s) list:  0-111
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:            INTEL(R) XEON(R) GOLD 5520+
BIOS Model name:      INTEL(R) XEON(R) GOLD 5520+
CPU family:            6
Model:                 207
Thread(s) per core:   2
Core(s) per socket:   28
Socket(s):             2
Stepping:              2
BogoMIPS:              4400.00
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
                      clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
                      lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology
                      nonstop_tsc cpuid aperf fmpf perf tsc_known_freq pni pclmulqdq dtes64 ds_cpl
                      vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2
                      x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm
                      abm 3dnowprefetch cpuid_fault epb cat_13 cat_12 cdp_13 invpcid_single
                      cdp_12 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority
                      ept vpid ept_ad fsgsbase tsc_adjust bmil avx2 smep bmi2 erms invpcid cqmq
                      rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt
                      avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqmq_llc
                      cqmq_llc cqmq_mbm_total cqmq_mbm_local avx_vnni avx512_bf16 wbnoinvd
                      dtherm ida arat pln pts avx512vbmi umip pku ospke waitpkg avx512_vbmi2
                      gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57
                      rdpid bus_lock_detect cldemote movdir64b enqcmd fsrm md_clear
                      serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile
                      amx_int8 flush_l1d arch_capabilities
Virtualization:        VT-x
L1d cache:              2.6 MiB (56 instances)
L1i cache:              1.8 MiB (56 instances)
L2 cache:                112 MiB (56 instances)
L3 cache:                105 MiB (2 instances)
NUMA node(s):            4
NUMA node0 CPU(s):      0-13,56-69
NUMA node1 CPU(s):      14-27,70-83
NUMA node2 CPU(s):      28-41,84-97
NUMA node3 CPU(s):      42-55,98-111
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:      Not affected
Vulnerability Mds:       Not affected
Vulnerability Meltdown:  Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed:  Not affected
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017\_int\_base = 525

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

SPECrate®2017\_int\_peak = 542

CPU2017 License: 6488

Test Date: May-2024

Test Sponsor: xFusion

Hardware Availability: Dec-2023

Tested by: xFusion

Software Availability: Dec-2023

## Platform Notes (Continued)

Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl  
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and \_\_user pointer sanitization  
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSB-eIBRS SW sequence  
Vulnerability Srbds: Not affected  
Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	2.6M	12	Data	1	64	1	64
L1i	32K	1.8M	8	Instruction	1	64	1	64
L2	2M	112M	16	Unified	2	2048	1	64
L3	52.5M	105M	15	Unified	3	57344	1	64

-----  
8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

available: 4 nodes (0-3)

node 0 cpus: 0-13,56-69

node 0 size: 128075 MB

node 0 free: 127345 MB

node 1 cpus: 14-27,70-83

node 1 size: 129017 MB

node 1 free: 128264 MB

node 2 cpus: 28-41,84-97

node 2 size: 128978 MB

node 2 free: 128300 MB

node 3 cpus: 42-55,98-111

node 3 size: 129012 MB

node 3 free: 128377 MB

node distances:

node 0 1 2 3

0: 10 12 21 21

1: 12 10 21 21

2: 21 21 10 12

3: 21 21 12 10

-----  
9. /proc/meminfo

MemTotal: 527446960 kB

-----  
10. who -r

run-level 3 May 31 02:42

-----  
11. Systemd service manager version: systemd 252 (252-13.el9\_2)

Default Target Status

multi-user degraded

-----  
12. Failed units, from systemctl list-units --state=failed

UNIT LOAD ACTIVE SUB DESCRIPTION

\* sep5.service loaded failed failed systemd script to load sep5 driver at boot time

-----  
13. Services, from systemctl list-unit-files

STATE UNIT FILES

enabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond  
dbus-broker firewalld getty@ insights-client-boot irqbalance kdump low-memory-monitor

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Platform Notes (Continued)

```
mdmonitor microcode nis-domainname rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark
sep5 sshd sssd sysstat systemd-boot-update systemd-network-generator tuned udisks2 upower
enabled-runtime      systemd-remount-fs
disabled           canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot
                   chrony-wait console-getty cpupower debug-shell dnf-system-upgrade kvm_stat
                   man-db-restart-cache-update nftables pesign rdisc rhcd rhsm rhsm-facts rpmbuild-rebuild
                   selinux-check-proper-disable serial-getty@ sshd-keygen@ systemd-boot-check-no-failures
                   systemd-pstore systemd-sysext
indirect            sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo systemd-sysupdate
                   systemd-sysupdate-reboot

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt5)/boot/vmlinuz-5.14.0-284.11.1.el9_2.x86_64
root=UUID=e7cc1b7d-5946-4ed4-8306-b2d382dc5709
ro
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
resume=UUID=937c2e4e-930c-4489-9a6c-cd05c9a2c08a
nohz_full=1-111

-----
15. cpupower frequency-info
analyzing CPU 0:
  Unable to determine current policy
  boost state support:
    Supported: yes
    Active: yes

-----
16. tuned-adm active
Current active profile: throughput-performance

-----
17. sysctl
kernel.numa_balancing          1
kernel.randomize_va_space       2
vm.compaction_proactiveness    20
vm.dirty_background_bytes       0
vm.dirty_background_ratio       10
vm.dirty_bytes                  0
vm.dirty_expire_centisecs      3000
vm.dirty_ratio                 40
vm.dirty_writeback_centisecs   500
vm.dirtytime_expire_seconds    43200
vm.extfrag_threshold           500
vm.min_unmapped_ratio          1
vm.nr_hugepages                0
vm.nr_hugepages_mempolicy       0
vm.nr_overcommit_hugepages     0
vm.swappiness                   10
vm.watermark_boost_factor      15000
vm.watermark_scale_factor       10
vm.zone_reclaim_mode            0

-----
18. /sys/kernel/mm/transparent_hugepage
defrag           always defer defer+madvise [madvise] never
enabled          [always] madvise never
hpage_pmd_size  2097152
shmem_enabled   always within_size advise [never] deny force
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Platform Notes (Continued)

19. /sys/kernel/mm/transparent\_hugepage/khugepaged  
alloc\_sleep\_millisecs 60000  
defrag 1  
max\_ptes\_none 511  
max\_ptes\_shared 256  
max\_ptes\_swap 64  
pages\_to\_scan 4096  
scan\_sleep\_millisecs 10000

20. OS release  
From /etc/\*-release /etc/\*-version  
os-release Red Hat Enterprise Linux 9.2 (Plow)  
redhat-release Red Hat Enterprise Linux release 9.2 (Plow)  
system-release Red Hat Enterprise Linux release 9.2 (Plow)

21. Disk information  
SPEC is set to: /home/2023  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda5 xfs 690G 138G 553G 20% /

22. /sys/devices/virtual/dmi/id  
Product: 1288H V7  
Product Family: Eagle Stream

23. dmidecode  
Additional information from dmidecode 3.3 follows. WARNING: Use caution when you interpret this section.  
The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.  
Memory:  
6x Samsung M321R4GA3PB0-CWMCH 32 GB 2 rank 5600, configured at 4800  
8x Samsung M321R4GA3PB0-CWMJH 32 GB 2 rank 5600, configured at 4800  
2x Samsung M321R4GA3PB0-CWMKH 32 GB 2 rank 5600, configured at 4800

24. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: INSYDE Corp.  
BIOS Version: 01.01.03.05  
BIOS Date: 04/12/2024  
BIOS Revision: 3.5

## Compiler Version Notes

=====

C | 502.gcc\_r(peak)

=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017\_int\_base = 525

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

SPECrate®2017\_int\_peak = 542

CPU2017 License: 6488

Test Date: May-2024

Test Sponsor: xFusion

Hardware Availability: Dec-2023

Tested by: xFusion

Software Availability: Dec-2023

## Compiler Version Notes (Continued)

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====

C++ | 520.omnetpp\_r(base, peak) 523.xalancmk\_r(base, peak) 531.deepsjeng\_r(base, peak)  
| 541.leela\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====

Fortran | 548.exchange2\_r(base, peak)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Base Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64  
502.gcc_r: -DSPEC_LP64  
505.mcf_r: -DSPEC_LP64  
520.omnetpp_r: -DSPEC_LP64  
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX  
525.x264_r: -DSPEC_LP64  
531.deepsjeng_r: -DSPEC_LP64  
541.leela_r: -DSPEC_LP64  
548.exchange2_r: -DSPEC_LP64  
557.xz_r: -DSPEC_LP64
```

## Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin  
-lqkmalloc
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin  
-lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto  
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin  
-lqkmalloc
```

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

SPECrate®2017\_int\_base = 525

SPECrate®2017\_int\_peak = 542

Test Date: May-2024

Hardware Availability: Dec-2023

Software Availability: Dec-2023

## Peak Portability Flags

500.perlbench\_r: -DSPEC\_LP64 -DSPEC\_LINUX\_X64  
502.gcc\_r: -D\_FILE\_OFFSET\_BITS=64  
505.mcf\_r: -DSPEC\_LP64  
520.omnetpp\_r: -DSPEC\_LP64  
523.xalancbmk\_r: -DSPEC\_LP64 -DSPEC\_LINUX  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64

## Peak Optimization Flags

C benchmarks:

500.perlbench\_r: -w -std=c11 -m64 -Wl,-z,muldefs  
-fprofile-generate(pass 1)  
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)  
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4  
-fno-strict-overflow  
-L/home/specdev/new\_compilers/ic2023.2.3/compiler/lib/intel64\_lin  
-lqkmalloc

502.gcc\_r: -m32  
-L/home/specdev/new\_compilers/ic2023.2.3/compiler/lib/ia32\_lin  
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)  
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4  
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf\_r: basepeak = yes

525.x264\_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-alias  
-L/home/specdev/new\_compilers/ic2023.2.3/compiler/lib/intel64\_lin  
-lqkmalloc

557.xz\_r: basepeak = yes

C++ benchmarks:

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017\_int\_base = 525

FusionServer 1288H V7 (Intel Xeon Gold 5520+)

SPECrate®2017\_int\_peak = 542

CPU2017 License: 6488

Test Date: May-2024

Test Sponsor: xFusion

Hardware Availability: Dec-2023

Tested by: xFusion

Software Availability: Dec-2023

## Peak Optimization Flags (Continued)

520.omnetpp\_r: basepeak = yes

523.xalancbmk\_r: basepeak = yes

531.deepsjeng\_r: basepeak = yes

541.leela\_r: basepeak = yes

Fortran benchmarks:

548.exchange2\_r: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-EMR-V1.0.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-EMR-V1.0.xml>

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2024-05-30 16:11:32-0400.

Report generated on 2024-06-24 10:40:15 by CPU2017 PDF formatter v6716.

Originally published on 2024-06-18.